



# Mill Test Certificate

**Bri-Steel Manufacturing Inc.**  
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Product: **Seamless Carbon Steel Pipe** Product Heat Number: **BSM-0218** Product Size: **NPS 24 STD** Production Date: **February 21, 2012**

Production Method: **Hot Expansion** Product Heat Treatment: **As-rolled**

Product Standards: **ASTM/ASME A/S106-2011 Grade B/C, A/S453-2010 Grade B Type S, NACE MR0175-2009**

Product Markings: **.BRI-STEEL MFG NPS 24 STD ASTM/ASME A/SA106 GR B/C A/SA53 GR B HEAT BSM-0218 (PIPE # LENGTH MASS) NDE 740PSI NACE MR0175 2012/02 MADE IN CANADA.**

Product Details						Non-Destructive Testing									
Heat	Test Type	NPS	SCH	Pieces	Length	Mass	Gelger	Res. Mag.	Visual	UT	UT	ET	HydroTest	End	
BSM-0218	Heat	24	STD	1	DRL	lb/ft	µR/hr	Gauss	Insp.	OD	WT	ASTM E213	ASTM E309	740 psi/5s	Condition
						94.62	<5	<20	Pass	Pass	Pass	---	Pass	37.5° Bevel	

		Chemical Analysis (wt%)														
Heat	Test Type	Steelmaking Method														
		Blast Furnace; EAF; Ladle Refining; Vacuum Degass														
BSM-0218	Heat	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE	CE
		0.21	0.90	0.011	0.006	0.28	0.04	0.11	0.03	0.04	0.003	0.001	0.002	0.0002	(IIW)	(CSA)

Mechanical Properties											
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test		Yield (Rt0.5)	Yield (Rp0.2)	Tensile (Rm)	Y/T	Elongation (A)
					HRBW	50mm GI; 38mm x WT					
BSM-0218	Heat	Ferrite & Pearlite	79	Pass	Transverse		45,500	44,200	75,500	0.60	41

Additional Details:

- ✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing Inc. in accordance with ASTM/ASME A/S106-2011, A/S453-2010 and the purchase order requirements, and that the results meet the corresponding requirements.
- ✓ This pipe product meet the sour service requirements of NACE MR0175/ISO 15156-2:2009 Annex A2 for Region 3 Sour Service, and NACE MR0103-2010 Section 2.1.
- ✓ No weld repairs have been performed on this product. This product has no mercury contamination.
- ✓ This certificate represents a quality control system that is compliant with EN 10204:2004 Type 3.1.

Mill Test Certificate approved by:

  
 2012 Mar 7

Kenton Dechant, P. Eng.  
 Manager of Quality and R&D